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Title *EM Performance Analysis of Thick Rectangular Aperture-type FSS Based on MM-GSM Technique*

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Abstract

The EM performance of thick FSS, perforated by rectangular apertures has been analyzed using MM-GSM technique for TM plane wave incidence. The transmission characteristics are studied at X-band (8-12 GHz) for different angles of incidence and compared with reported results to establish efficacy of the method in this work. Excellent agreement is observed between computed and reported results at angle of incidence 0° and 30°. It is also found that the pass-band of the transmission characteristics falls with frequency as incident angle increases. Further, the dependence of transmission on the dielectric constant and loss tangents of a material inside the aperture region is investigated at normal angle of incidence. It is observed that resonance frequency of the transmission decreases as dielectric constant of the material increases and the transmission reduces with the increase in the loss tangent of dielectric material.